



COMMUNICATING SCIENCE

'Them and us': Scientists and the media — attitudes and experiences

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Many researchers used to consider their work finished by the time their research had been completed, evaluated and published. Many still do. Since science is a knowledge industry in which the 'mode of payment' is attention — careers of scientists often depending heavily on citation 'accounts'¹ — this is not surprising.

The media are still the route whereby most adults learn about science.^{2,4} Media coverage of research (or lack of it) impacts on which research is supported by decision-makers,⁵ and scientific papers that get media coverage receive more citations in the later scientific literature.⁶

Scientists are the gatekeepers; the responsibility to communicate their findings to a broader audience lies in their hands. A closer, more co-operative relationship between scientists and journalists is vital for promoting coverage of science.

However, scientists seem to have a kind of 'international corporate culture' of mistrusting the media, historically viewing the press as 'sensation-mongering dumb-downers unworthy of the time it takes to do an interview'.⁷ As a 1997 study of over 1 400 scientists and journalists in the USA stated: 'Nowhere has the distrust toward journalists been so pronounced or so pervasive as in the science/technology community'.²

The relationship between scientists and the media, and scientists' attitudes to and experiences of reporting their findings to the public, have not yet been documented in South Africa.

In South Africa a massive gulf has existed between science and the citizen. Most science came of age during apartheid with its attendant aura of exclusivity, secrecy and elitism. The government of 1994 made democratisation of science a priority, and promoted popularisation of science as a key driver of socio-economic advancement.

Described as 'the best established statutory research body in sub-Saharan Africa',⁸ the Medical Research Council (MRC)

receives around 60% of its funding from taxpayers, and hence is accountable to them. As a publicly funded body the MRC must be able to justify why it gets this money, as well as to explain what it does with it in terms of its mandate to improve the health status of the nation. It is crucial that MRC research findings be communicated to a public that is largely paying for the research and that stands to benefit from it.

Although the MRC has an excellent track record in terms of research outputs, awareness of the organisation among the South African public is limited. Almost the only direct communication with the public happens when research involves members of specific communities (e.g. trial sites, research relating to human behaviour, etc.).

How can communication between the MRC's scientists and the media and public be boosted? First there is a need to ascertain how scientists feel about communication and interaction with the media and public, what their attitudes and experiences have been, and how these have affected them.

The investigation

The objective was to provide a 'baseline' indication of the attitudes and experiences of MRC scientists in terms of communication of their research to the public and media, by asking questions such as:

- How do you feel about the media, and interacting with them?
- What have your experiences of interacting with the media been like?
- Who do you think should bear the main responsibility to communicate with the public about scientific research?
- What barriers do you see to greater understanding of science among the general public?
- What personal benefits or disadvantages do you see in communicating your research to the public?
- How satisfied have you been with media coverage of your work and why (or why not)?

Permission was obtained from The Wellcome Trust to use many questions from parts of their recent British survey commissioned from Market & Opinion Research International (MORI)⁹ in a postal survey of scientists at the MRC. The MRC survey differed considerably in terms of methodology. The

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Wellcome Trust/MORI survey comprised face-to-face interviews (responses unprompted, and in the case of open-ended questions, recorded verbatim) with a random sample of 1 540 research scientists at higher education institutions and 112 scientists at 42 research council-funded establishments. The MRC survey was a postal survey of a significantly smaller sample size (253 scientists), with prompted responses. Responses to open-ended questions were recorded verbatim. Any comparisons between these two sets of data must therefore be cautious.

One month was given for responses, during and after which reminders were sent by putting notices in the MRC's weekly electronic newsletter. (This does not reach short-term researchers, however, which may have impacted on their response rate.)

Of the 253 questionnaires sent out, 100 were returned (39.5%) in time to be included:

Category	Sent (N)	Completed (N)	%
MRC intramural scientists*	157	54	34.4
MRC unit directors (extramural)*	23	23	100.0
Short-term grant recipients	73	22	30.1

*Intramural and extramural scientists have since been combined into one inclusive MRC research portfolio.

Although the overall response rate of 39.5% was lower than desirable, all of the MRC's unit directors at that stage, each a world-class researcher and leader in his or her field, responded. The responses represent a sizeable assembly of valuable information from many of the MRC's top researchers, reflected by their educational qualifications, grade of position and number of articles in peer-reviewed journals.

Gender was fairly evenly represented, with 42.4% female and 57.6% male respondents. (Of MRC 'intramural' scientists in 2000, 56.9% were female and 43.1% male.) Most were in the 35 - 44-year and 45 - 54-year age brackets (35% and 33% respectively). Ninety-five per cent worked full-time, and most were funded principally by the MRC.

In terms of grade of position, 45% were division head or higher: 10% were head of a department, school or institution, 28% were programme leaders or directors, 3% were sub-programme leader/assistant directors, and 4% were division heads.

This was a very well educated bunch, with 57.7% having a PhD, 21.6% a Masters degree and 10.3% an MD or MB ChB.

Almost half of the respondents had published more than 30 articles in journals, an impressive track record. However, most of them (38.9%) had never had their journal articles mentioned in the lay media.

Authored journal articles mentioned in the lay media

N	%
0	38.9
1 - 2	22.1
3 - 5	13.7
5 +	25.3

The findings

Who do the scientists think they should communicate their research to?

The scientists were asked who they thought was the most important group that they should communicate their research to, and why. 'The public' and 'policymakers' came out neck and neck as the most important, with 28.6% each.

Group	%
The public	28.6
Policymakers/ government/ opinion leaders (A further 3% nominated both these above sectors together as most important)	28.6
Peers/ other scientists	10.2
The media (An additional 2% nominated scientists and the public together)	9.2

As a matter of interest, The Wellcome Trust/MORI survey found that 'Scientists at Research Council-funded establishments appeared to place greater value than average on communicating with the public and with government.'⁹

It is interesting that the public was joint first choice as the most important group to communicate with, given the fact that most of the respondents' peer-reviewed journal articles have never been mentioned in the lay media. It is therefore unlikely that much if any information on their research has ever actually reached the general public.

Only a few of the scientists thought that the groups they selected were very knowledgeable about the science of their area of research.

Scientists' opinions of groups' knowledge about their research (%)

	How knowledgeable?			
	Very	Fairly	Not	Not at all
Public	10.7	17.9	46.4	25.0
Policymakers/ government	14.8	37.0	44.4	3.7
Media	—	33.3	33.3	33.3



Barriers and benefits to greater understanding of science

What do the scientists see as the main barriers to greater understanding of science in general among the non-specialist public (those with no specialist knowledge of or training in science)? Top here was the belief that there is ‘Little public understanding of what scientists do’ (59%), followed by ‘Lack of education’ (55%). (These were also seen as the main barriers in The Wellcome Trust/MORI survey.)

Interestingly, ‘Lack of communication skills among scientists’ (53%) ranked third highest of the list of 16 options. ‘Insufficient media coverage’ and ‘Alack of appreciation of how science affects them’ were both selected by 50% of respondents.

Eighty-one per cent of respondents felt that the main benefit of a greater understanding of science was that it ‘Enables the public to make informed decisions about their lives’. The next four ranked responses were: (i) policymakers and decision-makers are better equipped (64%); (ii) enables the public to judge science issues for themselves (59%); (iii) more people entering science education/science careers (55%); and (iv) better knowledge/understanding of science is a benefit in itself (53%).

The top personal benefit of communicating research to the public was seen as ‘Advancing the role of science’ (65%). The two greatest personal disadvantages of communicating research to the public were fears that ‘My research could be reported inaccurately’ (46%) and that it ‘Takes too much time’ (43%).

Where do people get their information from — and who do they trust?

The scientists recognised that the non-specialist public is more likely to glean knowledge of scientific research and its implications from the lay media than from scientific journals or even information published by bodies such as the MRC, or the ‘popular’ science press. Eighty-six per cent of respondents thought the public got their information on scientific research from local newspapers, 81% that they got it from general-interest magazines and 78% from national newspapers. Sixty-six per cent saw television news as a source. Only 10% thought the non-specialist public got such information from material published by bodies such as the MRC or CANSA (Cancer Association of South Africa), 6% from the ‘popular’ science press (e.g. *New Scientist*) and 1% from scientific journals.

While the public may be one of the most important groups to communicate with, the scientists realised that the public isn’t going to be unearthing material in scientific journals — which is the only medium most of the respondents’ work has been mentioned in.

Who would the scientists themselves generally trust to provide accurate information on scientific research facts? From

their top three selections it is apparent that they generally trust other scientists with this function: (i) the MRC (81%); (ii) scientists in universities (77.0%); and (iii) science books written by scientists (62.0%).

Who do they think the general public would generally trust to provide accurate information about scientific facts? Again, scientists were selected as most trustworthy, with ‘Scientists in universities’ (70.0%) and the MRC (69%) topping the list (government scientists and advisory bodies rated 35% and 32% respectively).

Although scientists themselves don’t trust the media to provide accurate scientific information, they feel that the general public do trust the media to do so.

Trust to provide accurate scientific information	Public (%)	Scientists (%)
TV documentaries	58	15
TV news and current affairs programmes	56	8
Journalists working for the popular scientific press, e.g. <i>New Scientist</i>	51	44
Journalists working for national newspapers	43	5

Getting more information from MRC scientists into the lay media would be one way of getting more information about the MRC, its scientists and its research to the general public of South Africa, who pay for it.

Contact with the media

Have the researchers been talking to the media? How do they feel about the media, and about the media’s coverage of their work, if any?

Fifty-six of the 100 respondents indicated that during the past year they had personally talked to the press or media about research in their field. Fifty-five scientists responded to an enquiry about how many times they had done so, with a mean of 7.5 times. A few high-fliers had spoken to the media on a regular basis — one heading up HIV/AIDS research had done so 100 times in the year, and another sports scientist had a weekly radio slot.

How often had the scientists been interviewed or written about in a science news story? Results showed that most had very rare contact in terms of science news coverage.

Many of the scientists indicated that they felt that the day-to-day requirements of their job left them with too little time to get on with research (36.4%), or to communicate the implications of their research with others (47.5%). However, in terms of responding to enquiries from the press or media, only 9% felt that they had ‘frequently’ had difficulty responding to the volume of enquiries (11% had occasionally had difficulty, 20% rarely and 24% never).



The scientists did not rate general coverage of science and technology in the media very highly. While 43.2% said coverage on the international channel or programme that they watched most often was 'good' (and 8% 'excellent'), only 7.4% judged coverage on national television news as being 'good' (and none as 'excellent'). This indicates a serious lack of confidence in the national media. National newspapers (19.8% 'good') and radio broadcasts (12.1% 'good') also fared badly, and local newspapers (18.7%) and radio (9.2%) likewise.

How satisfied were those whose work (or themselves) had been the source or subject of a news story, with the coverage they received? Most (65.4%) indicated that they had been either 'very satisfied' or 'somewhat satisfied' with the coverage.

Notwithstanding the fact that most scientists (65.4%) were satisfied with their coverage, most (41.3%) rated the journalist who covered them as 'not very knowledgeable' in terms of general knowledge.

Experiences of/feelings towards the media

The scientists were encouraged to make comments regarding their experiences of or feelings towards the media. Just a few are listed here, in broad themes.

Embracing the challenge

'My feelings are that the media like to sensationalise. My experience — though extremely limited — indicates a professional and responsible reporting of the "truth".'

'We need training in dealing with the media. It is not just "communication skills" — it is more around understanding how the media work, how they will package a story, etc. Scientists generally tend to be dismissive of discourses they don't understand.'

Views on the media's mission

'If a story can run like a field fire, the media will publish it. But if it is a less controversial, less "flavoured" topic, it's not covered — despite good scientific value.'

'Radio and TV journalists are looking for a sound bite; no depth can be obtained in understanding the problem.'

Views on what is needed

'There is a need for scientific journalists with an in-depth understanding of medical research — the journalists are often very young with no scientific background.'

'Journalists should make an effort or give the scientist the opportunity to double check their story before it goes to print so that it is portrayed as accurately as possible.'

Fear and loathing

'The press should not be allowed to report on oral interviews with scientists. The press should be given written reports, and any deviations from the report should be strongly viewed.'

'They do their own thing and are unreasonably jealous of "the freedom of the press".'

Training in dealing with the media

Would the scientists agree to be on an MRC list of 'expert contacts' for the media? Sixty-seven per cent said that they would. What were the concerns of those who did not want to be on such a list? Lack of training and experience in dealing with the media was the main reason given by a number of respondents, as well as lack of time. Some just don't want to be involved in such interaction ('I don't like it personally'), or are nervous ('[I] Do not feel confident about speaking to media'). This lack of confidence is to be expected given the overwhelming lack of training in dealing with the media. Others would be keen if training and support were given.

Communication by the MRC

The MRC had produced press releases or briefings on the work of 37% of the scientists in the previous year. A further 37% had research that was ripe for coverage, but most had not contacted anyone to discuss achieving this. Reasons included lack of time, not thinking about it or not bothering because such work is not rewarded or valued: 'The MRC has a system of rewarding scientific journal publications. Anything else, MRC views as "less valued". Why should I then bother to use time and energy for a press release that's not valued on my track record by MRC?'

This comment is a recurring one, arising in all the other surveys of scientists and the media examined (one each from the USA,² UK⁹ and Australia¹⁰). It links in with another question: 'Do you think that the MRC should formally reward researchers for disseminating their findings to and interacting with the media and other non-scientists?' Feelings around this are as intense and polarised in South Africa (yes 45.9%, no 40.8%, don't know 13.3%) as they are in Australia¹⁰ and the UK.⁹

Researchers who felt that such interaction should be rewarded commented: 'Surely so. The current "culture" of peer-reviewed journals is maybe a too narrow-minded one. I can probably reach 20 000 readers if I publish in *Bona* or *Femina* or *Fair Lady*, and can contribute through this to the health of the nation much better than through journals, read by 200 scientists.'

'I don't mean "reward" by money per interaction. However, interaction with media etc should be one of the measurable



outputs alongside articles published, students graduated etc.'

Others are concerned that rewarding this interaction will take away from the traditional means of assessing scientific research, viz. the peer-reviewed journal article: 'Media interaction is a time-consuming activity which draws scientists away from the reason why they are employed in the first place.'

'No, definitely not. If we reward speaking to the press then there is less incentive to publish in journals and scientists may go to press more often than publishing — this is totally unacceptable.'

Discussion

Commitment to a culture of dialogue

For the scientists to be able to carry out communication activities around their research, encouragement and support must be provided by the MRC. Time will have to be allocated for communication, training will have to be provided, and incentives outlined. Allocation of time to communication would imply that this activity should be 'written in' as part of the scientists' jobs.

Lack of time will remain a significant barrier as long as scientists feel they would be better off spending time from their crowded schedules on preparing formal publications and that their employer does not value efforts in media work. The Australian survey¹⁰ also stated that a cultural change is required before scientists will make more use of the media: 'It has to become an accepted, rewarded, recognised and legitimate activity, encouraged at the highest levels and actively promulgated through research organisations.'

Science communication and the development of links with the community and the media should be seen as part and parcel of scientific research, and given due recognition.

A look at the landscape

It was heartening to find such a positive attitude among the scientists towards communicating with the public:

- fully 92.8% of the scientists strongly agreed or tended to agree that they have a duty to communicate their research and its implications to the public
- 70.8% strongly agreed or tended to agree that they would like to spend more time doing so
- 55% felt fairly well equipped and 22% very well equipped to personally communicate the scientific facts of their research to non-specialists
- the scientists recognised that the non-specialist public is most

likely to glean its knowledge of scientific research and its implications from the lay media, and most of the scientists believed that talking to the national (71%) or local (61%) press or TV and radio journalists (60%) or speaking on TV/radio (59%) are effective methods of communicating their own research and its implications to the public

- 80.8% of the scientists would be interested in receiving training in dealing with the media if the MRC provided it
- when their work (or they themselves) had been the source or subject of a news story, most (65.4%) indicated that they had been either 'very satisfied' or 'somewhat satisfied' with the coverage.

It is clear that the scientists generally want to communicate and see the potential benefits of this. However, there are also a number of barriers. These include lack of time, little trust in the media, little training in dealing with the media, and lack of support, encouragement and incentives. The scientists themselves do not trust the media to provide accurate information about science (e.g. only 5% trusted national newspapers to do so), and the overwhelming majority (86.9%) had never had any training in dealing with the media.

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